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EXAMINER

VENT, JAMIE J

ART UNIT

PAPER NUMBER

2621

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/679,069

Applicant(s)

PARK, CHONG-MOK

Examiner

Jamie Vent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. Additionally, examiner notes that "discontinuous" circular buffer is being interpreted to mean sectors on a hard disk and thereby is met in McIlvain et al as seen in Figure 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6,8,18-20 rejected under 35 U.S.C. 103(a) as being unpatentable by McIlvain et al (US 5,765,200) in view of Barton et al (US 6,233,389).

[claims 1, 18, 19]

In regard to Claim, 1, 18, and 19 McIlvain et al discloses a video stream processing method in a broadcast receiving system for time-delayed viewing, which includes disks having control information required for recording an input signal and reproducing recorded information recorded and a drive for driving the disks, the video stream processing method comprising:

- sequentially assigning free blocks as discontinuous circular buffer blocks in a disk recording area(Figure 2 shows the assigning of free blocks to the

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circular buffer. The assigning is based on control information as described in Column 5 Lines 20-52); and

- recording video streams for time-delayed viewing in the assigned circular buffer blocks (Column 5 Lines 20-35 describes the recording of video streams); however, fails to disclose the assigning of free blocks in the circular buffer is based on the control information when a time-delayed viewing mode is selected.

Barton et al discloses a system wherein various programs are broadcasted, recorded, reproduced, and played back. The system provides a circular buffer for assigning information as seen in Figure 6. The data is recorded based on control information as seen in Figures 4 and 9 and described in Column 5 Lines 3-32 and Column 8 Lines 9+. The system provides recording of information in various buffers in order of priority. For example, if a show is being recorded it will be recorded in the hard drive but if the current broadcast showing is being recorded while watching the show will be recorded in the buffer and deleted once the space is needed. This provides the system the ability to distinguish between various priorities of show while efficiently handling the memory of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the video stream processing system, as disclosed by McIlvain et al and further incorporate a system that records to free blocks based on control information, as disclosed by Barton et al.

[claim 2]

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In regard to Claim 2, McIlvain et al discloses a video stream processing method of claim 1, further comprising updating the control information and setting a pointer of a write point to a last one of the assigned circular buffer blocks after the recording of the video stream (Column 5 Lines 43-67 and Column 6 Lines 24-32 describes the setting the write pointer to the last assigned circular buffer block).

[claim 3]

In regard to Claim 3, McIlvain et al discloses a video stream processing method of claim 1; wherein the sequentially assigning of the free blocks comprises assigning the free blocks as the circular buffer blocks in a track and sector number ascending order (Column 7 Lines 15+ and Column 8 Lines 19-35 describes the assigning of free blocks in order of track and sector number).

[claims 4 & 20]

In regard to Claim 4, McIlvain et al discloses a video stream processing method of claim 1, wherein the control information comprises file attribute information, file assignment information, free block information for each track, and circular buffer block information (Column 9 Lines 5-47 describes the information that comprises the control information in regard to information about the data).

[claim 5]

In regard to Claim 5, McIlvain et al discloses a video stream processing method of claim 1, further comprising: recovering the circular buffer blocks to the free blocks when the broadcast receiving system is initialized (Column 2 Lines 33-43 describes the recovering of free blocks once system task is initialized).

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[claim 6]

In regard to Claim 6, McIlvain et al discloses a video stream processing method of claim 1, further comprising recovering the assigned circular buffer blocks to the free blocks and updating the control information when a next circular buffer block is assigned (Figure 2 shows the assigning of free blocks to the circular buffer. The assigning is based on control information as described in Column 5 Lines 20-52.

[claim 8]

In regard to Claim 8, McIlvain et al discloses a video stream processing method of claim 5, wherein the recovering of the circular blocks comprises updating information of one of the circular buffer blocks which is pointed by a pointer at a write point with free block information, the video stream processing method further comprising initializing the pointer (Column 5 Lines 43-67 and Column 6 Lines 24-32 describes the setting the write pointer to the last assigned circular buffer block).

Claims 21, 23-26, 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable by Aoki et al (US 6,009,231) in view of Barton et al (US 6,233,389).

[claims 21 & 32]

In regard to Claims 21 and 32, Aoki et al discloses a broadcast receiving system, comprising:

- a hard disk drive having a hard disk as a recording medium, the recording medium having control information for recording an input signal and reproducing

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recorded information (Figure 1 shows a hard disk for the recording medium wherein control information is recorded as described in Column 6 Lines 25+);

- a controller which sequentially assigns free blocks as discontinuous circular buffer blocks on the recording medium, based upon the control information in response to a time-delayed viewing mode being selected, and which records video streams for time-delayed viewing in the assigned circular buffer blocks (Figure 4a-4c shows the storing of the data on the circular buffer wherein it is further described in Column 7 Lines 59+ through Column 8 Lines 1-34 describes the selection and storing of the video streams); however, fails to disclose the assigning of free blocks in the circular buffer is based on the control information when a time-delayed viewing mode is selected.

Barton et al discloses a system wherein various programs are broadcasted, recorded, reproduced, and played back. The system provides a circular buffer for assigning information as seen in Figure 6. The data is recorded based on control information as seen in Figures 4 and 9 and described in Column 5 Lines 3-32 and Column 8 Lines 9+. The system provides recording of information in various buffers in order of priority. For example, if a show is being recorded it will be recorded in the hard drive but if the current broadcast showing is being recorded while watching the show will be recorded in the buffer and deleted once the space is needed. This provides the system the ability to distinguish between various priorities of show while efficiently handling the memory of the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the video stream processing system, as disclosed by

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Aoki et al and further incorporate a system that records to free blocks based on control information, as disclosed by Barton et al.

[claims 23, 24, & 28]

In regard to Claims 23, 24, and 28, Aoki et al discloses a broadcast receiving system of claim 21, further comprising:

- an input device which enables simultaneous operation of the time-delayed viewing mode and a recording mode (Figure 1 shows input device wherein time delayed viewing and recording is available);
- wherein the controller assigns free blocks of the recording medium, records the video streams of a channel to be recorded in the assigned free blocks in response to the selection of the simultaneous operation of the time-delayed and recording modes, assigns free blocks nearest to the recorded free blocks as circular buffer blocks, and records the video streams for time-delayed viewing in the assigned circular buffer blocks (Figure 4a-4c shows the storing of the data on the circular buffer wherein it is further described in Column 7 Lines 59+ through Column 8 Lines 1-34 describes the selection and storing of the video streams)..

[claim 25]

In regard to Claim 25, Aoki et al discloses a broadcast receiving system of claim 21, wherein the controller updates the control information and sets a pointer of a write point to a last one of the assigned circular buffer blocks after recording the video streams (Figures 12a-12c shows the control information that points to write point of last block).

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[claim 26]

In regard to Claim 26, Aoki et al discloses a broadcast receiving system of claim 21, wherein the hard disk drive comprises: a control unit which controls the hard disk drive; and an expander which expands the hard disk drive (Figure 1 shows the hard drive wherein it is well known a controller and expander exists for control of the hard drive).

[claims 29, 30, & 31]

In regard to Claims 29, 30, and 31 Aoki et al discloses a broadcast receiving system of claim 28, wherein the circular buffer blocks form a circular buffer write and read pointers of the circular buffer have special pointer values in the random access memory so that the circular buffer blocks of the circular buffer are discontinuous (Figures 12a-12c shows the control information that points to write point of last block as further described in Column 11 Lines 5-60).

Claims 7, 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over McIlvain et al (US 5,765,200) in view of Barton in further view of Aoki et al (US 6,009,231).

[claim 7]

In regard to Claim 7, McIlvain et al in view of Barton et al discloses a video stream processing method of claim 1, wherein the sequentially assigning free blocks comprises interleaved assigning the free blocks for each video stream (Figure 2 shows the assigning of free blocks to the circular buffer. The assigning is based on control information as described in Column 5 Lines 20-52); however fails to disclose that if the video streams are of different channels to be recorded concurrently. Aoki discloses a

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system wherein reproduction of information is done through the use of a ring buffer. As further shown in Figure 1 various streams are broadcasted and entered into the system as further described in Column 1 Lines 12-41. The various transmitting of the broadcast channels allows the system to process various signals into the system for storing onto the ring buffer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a video stream processing method, as disclosed by McIlvain et al, and further incorporate a system wherein the video streams are different broadcast channels being entered into the system, as disclosed by Aoki et al.

[claim 10]

In regard to Claim 10, McIlvain et al discloses a video stream processing method of claim 7, further comprising updating the control information and setting a pointer of a write point to a last one of the assigned circular buffer block each time the video streams are recorded in the free blocks subsequent to the recording of the video streams for time-delayed viewing in the assigned circular buffer blocks (Column 5 Lines 43-67 and Column 6 Lines 24-32 describes the setting the write pointer to the last assigned circular buffer block)..

[claims 9, 12, 14, 15, 16, & 17]

In regard to Claims 9, 12, 14, 15, 16, and 17, McIlvain et al in view of Barton et al discloses a video stream processing method, as previously disclosed in Claim 1, however fails to disclose the following limitation that a broadcast receiving system for time-delayed viewing, which includes a hard disk drive having control information required for recording an input signal and reproducing recorded information recorded in

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a predetermined area, the video stream processing method. Aoki discloses a system wherein reproduction of information is done through the use of a ring buffer. As further shown in Figure 1 various streams are broadcasted and entered into the system as further described in Column 1 Lines 12-41. The various transmitting of the broadcast channels allows the system to process various signals into the system for storing onto the ring buffer. Additionally, Aoki discloses that the broadcast system has a time delayed viewing and storing as disclosed in Column 4 Lines 10+. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a video stream processing method, as disclosed by McIlvain et al, and further incorporate a system wherein the video streams are different broadcast channels being entered into the system, as disclosed by Aoki et al.

[claims 11 & 13]

In regard to Claims 11 and 13, McIlvain et al discloses a video stream processing method of claim 9, wherein the free blocks nearest to the recorded free blocks are in a same track or a nearest track of the recorded free blocks (Figure 2 shows the assigning of free blocks to the circular buffer. The assigning is based on control information as described in Column 5 Lines 20-52).

Claims 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al (US 6,009,231) in view of Barton et al (US 6,233,389) in further view of Peters et al (US 5,884,284).

[claim 22]

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In regard to Claim 22, Aoki et al discloses a broadcast receiving system of claim 21, discloses a random access memory that selectively stores information and has a video recovery unit that restores the video streams, as recited in Claim 21, however fails to disclose the following limitations:

- a first radio frequency tuner which receives an external broadcast signal, a second radio frequency tuner which receives an external analog broadcast signal,
- a video compressor which converts the received analog signal to a digital signal and compresses the digital signal, and
- a selector which selectively enables transmission of the external digital broadcast signal and the compressed digital signal.

Peters et al discloses a telecommunication system wherein tuners are present for receiving broadcast information as seen in Figure 1 and further described in Column 10 Lines 52-63. The video converts and compresses the digital signal wherein the random access memory will temporarily store the information as further described in Figure 1. The system comprising of frequency tuners allows for more information both digital and analog to be transmitted into the system and furthermore allows for proper conversion and selection of the data stream. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a broadcast receiving system, as disclosed by Aoki et al, and further incorporate tuners and video compressor and selector to the system, as disclosed by Peters et al, to allow for more information to be transmitted and entered into the system.

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[claim 27]

In regard to Claim 27, Aoki discloses a broadcast receiving system of claim 22, wherein the controller comprises: a read-only memory which stores control program data to control the random access memory and the hard disk drive and a second random access memory which temporarily stores data during a control operation of the controller (Figure 1 shows the various memories that are used for permanent and temporary storage).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Aoki et al (US 5,771,331);
- Elko (US 5,313,739).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamie Vent whose telephone number is 571-272-7384. The examiner can normally be reached on 7:30am-5:00pm.

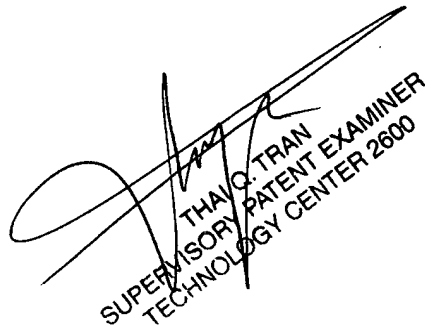
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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